Refine Search

Your wildcard search against 10000 terms has yielded the results below.
Your result set for the last L# is incomplete.
The probable cause is use of unlimited truncation. Revise your search strategy to use limited truncation.

Search Results -

Terms	Documents
L35 and (single$ with sens$)	6

Database:
US Pre-Grant Publication Full-Text Database
US Patents Full-Text Database
US OCR Full-Text Database
EPO Abstracts Database
JPO Abstracts Database
Derwent World Patents Index
IBM Technical Disclosure Bulletins

Search: 10/707,569

[Refine Search]

[Recall Text ⇕]   [Clear]   [Interrupt]

Search History

DATE: Sunday, October 28, 2007   <u>Purge Queries</u>   <u>Printable Copy</u>   <u>Create Case</u>

Set Name side by side	Query	Hit Count	Set Name result set
	DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR		
	L35 and (single$ with sens$)	6	
	L35 AND safe$	2	
	((single$ near2 vis$) with sens$)	6	
	(single$ adj vis$ adj2 sens$)	0	
	(driv$ or passenger$ or occupant$) and(single$ adj vis$ adj2 sens$)	0	
	(driv$ or passenger$ or occupant$) same(single$ adj vis$ adj2 sens$)	0	
	((sens$ with (position$ or coordinat$)) same (driv$ or passenger or occupant$)) and (single$ with vis$ with sens$)	4	
	((sens$ with (position$ or coordinat$)) same (driv$ or passenger or occupant$)) and (single$ adj vis$ adj sens$)	0	

L29	((sens$ with (position$ or coordinat$)) with (driv$ or passenger or occupant$)) and (single$ adj vis$ adj sens$)	0 L29
L28	L27 and (single$ adj vis$ adj sens$)	0 L28
L27	L23 or L24 or L25 or L26	39 L27

DB=PGPB,USPT; THES=ASSIGNEE; PLUR=YES; OP=OR

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L25	("20050137774"| "20050017857"| "20030179084"| "20050073396"| "4307374"| "6862537"| "7158015"| "6958683")[PN]	8 L25

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR

L24	L15	8 L24

DB=PGPB,USPT; THES=ASSIGNEE; PLUR=YES; OP=OR

L23	("20050137774"| "20050017857"| "20030179084"| "20050073396"| "4307374"| "6862537"| "7158015"| "6958683")[URPN]	7 L23

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR

L22	L20 and (single$ with (vision$ or visual$) with sens$)	0 L22
L21	L20 and (single$ adj vision$ adj sens$)	0 L21
L20	L19 not L15	27 L20
L19	L18 and 701/$.ccls.	27 L19
L18	L17 and safe$.clm.	112 L18
L17	L14 and ((sens$ with (position$ or coordinat$)) with (driv$ or passenger or occupant$))	945 L17
L16	L1 and ((sens$ with (position$ or coordinat$)) same (driv$ or passenger or occupant$))	1522 L16
L15	L14 and (single$ with (vision$ or visual$) with sens$)	8 L15
L14	L1 or L2	26507 L14
L13	L3 and (single$ with (vision$ or visual$) with sens$)	0 L13

DB=PGPB; THES=ASSIGNEE; PLUR=YES; OP=OR

L12	L5 and hood$	0 L12
L11	L5 and cruis$	1 L11
L10	L5 and (camera$ same ((sens$ with coordinat$) same referenc$))	0 L10
L9	L5 and camera$	1 L9
L8	L5 and ((sens$ with coordinat$) same referenc$)	1 L8
L7	L5 and L3	0 L7
L6	L5 and L4	0 L6
L5	20020026274	1 L5

DB=PGPB,USPT,USOC,EPAB,JPAB,DWPI,TDBD; THES=ASSIGNEE; PLUR=YES; OP=OR

L4	L3 and (collid$ or collision$)	7 L4

L3	L1 and ((sens$ with coordinat$) same referenc$)	25	L3
L2	sensor$.clm. and (vehicle or automobile or car$).clm. and control$.clm. and @ad<=20031222	20891	L2
L1	sensor$.clm. and (vehicle or automobile or car$).clm. and control$ and @ad<=20031222	26507	L1

END OF SEARCH HISTORY

DOCUMENT-IDENTIFIER: US 20050073396 A1
TITLE: MULTIPURPOSE VISION SENSOR SYSTEM

Abstract Paragraph:
A multipurpose sensing system (10) for a vehicle (12) includes an optic (14) that is directed at multiple viewing areas (18). A vision sensor (16) is coupled to the optic (14) and generates multiple object detection signals corresponding to the viewing areas (18). A controller (22) is coupled to the vision sensor (16) and generates multiple safety system signals in response to the object detection signals.

Pre-Grant Publication (PGPub) Document Number:
20050073396

Application Filing Date:
20031002

Summary of Invention Paragraph:
[0001] The present invention relates to vehicle sensing systems. More particularly, the present invention relates to a method and system for performing multiple sensing system operations utilizing a single vision sensor.

Summary of Invention Paragraph:
[0002] Various sensing systems currently exist for performing collision warning and countermeasure system operations, such as detection, classification, tracking, and relative distance and velocity estimation of objects within a close proximity of a host vehicle. Sensing systems also exist for performing other sensing system operations, such as windshield wiper and defogger operations, occupant sensing and tracking operations, and adaptive cruise control operations.

Summary of Invention Paragraph:
[0004] Certain collision warning and countermeasure systems are able to sense an object within close proximity of the host vehicle and warn the host vehicle operator, such that the operator can take precautionary steps to prevent a collision or injury. Other collision warning and countermeasure systems activate passive or active countermeasures such as airbags, load limiting seatbelts, or brake control whereby the system itself aids in preventing a collision or injury.

Summary of Invention Paragraph:
[0007] Adaptive cruise control operations include adjusting a host vehicle traveling speed to maintain a safe operating distance between the host vehicle and a target vehicle. Other similar sensing systems also exist, such as lane departure and lane-keeping systems, which monitor lane markers or roadway lane designating lines and provide warnings when the host vehicle is not maintaining travel within a current operating lane.

Summary of Invention Paragraph:
[0010] The present invention provides a method and system for performing multiple sensing system tasks or operations. A multipurpose sensing system for a vehicle is provided and includes an optic that is directed at multiple viewing areas. A vision

sensor is coupled to the optic and generates multiple object detection signals corresponding to the viewing areas. A <u>controller</u> is coupled to the vision sensor and generates multiple safety system signals in response to the object detection signals.

<u>Summary of Invention Paragraph</u>:
[0012] Another advantage of the present invention is that it utilizes a single <u>controller</u> for operational <u>control</u> of the sensing system. The <u>controller</u> is capable of <u>controlling</u> multiple sensing system operations, thus further minimizing number of components, costs, and weight of a sensing system.

<u>Detail Description Paragraph</u>:
[0019] In the following figures the same reference numerals will be used to refer to the same components. The present invention may be adapted and applied to various sensing systems including: collision warning systems, collision avoidance systems, parking-aid systems, reversing-aid systems, passive countermeasure systems, adaptive cruise <u>control</u> systems, lane departure systems, lane-keeping systems, windshield clearing systems, or other systems known in the art.

<u>Detail Description Paragraph</u>:
[0026] Referring now to FIG. 1, a block diagrammatic view of a multipurpose sensing system 10 for a vehicle 12 in accordance with an embodiment of the present invention is shown. The vision sensing system 10 includes a multi-focal optic 14 coupled to a vision sensor 16. The vision sensor 16 in conjunction with the lens 14 is capable of monitoring multiple viewing areas 18, as are best seen in FIGS. 2 and 3. A signal processor 20 is coupled to the vision sensor 16 and formats object detections signals generated by the vision sensor 16 for further processing by a <u>controller</u> 22. The <u>controller</u> 22 in response to the object detection signals performs various sensing system operations.

<u>Detail Description Paragraph</u>:
[0027] A safety system 24 and an indicator 26 are coupled to the <u>controller</u> 22. The <u>controller</u> 22 may enable various passive countermeasures 28 and active countermeasures 30 within the safety system 24 in response to the object detection signals. The <u>controller</u> 22 as part of a countermeasure may generate a warning signal and communicate the warning signal to vehicle occupants via the indicator 26.

<u>Detail Description Paragraph</u>:
[0029] The signal processor 20 receives and converts the object detection signals, generated by the vision sensor 16, into a proper format for reception by the <u>controller</u> 22. The signal processor 20 may include analog-to-digital converters, filters, or amplifiers, as well as other signal conditioning components known in the art. The signal processor 20 may be part of the vision sensor 16 or the vehicle <u>controller</u> 22, may be a stand-alone device, as shown, or may be some combination thereof.

<u>Detail Description Paragraph</u>:
[0030] The <u>controller</u> 22 may be microprocessor based such as a computer having a central processing unit, memory (RAM and/or ROM), and associated input and output buses. The <u>controller</u> 22 may be an application-specific integrated circuit or be formed of other logic devices known in the art. The <u>controller</u> 22 may be a portion of a central vehicle main <u>control</u> unit, an interactive vehicle dynamics module, a restraints <u>control</u> module, a main safety <u>controller,</u> or may be a stand-alone <u>controller</u> as shown.

<u>Detail Description Paragraph</u>:
[0031] The <u>controller</u> 22 may perform various different sensing system operations including adaptive cruise <u>control,</u> lane-keeping <u>control,</u> lane-departure <u>control,</u> window clearing <u>control,</u> collision avoidance <u>control,</u> countermeasure <u>control,</u> or

other sensing system operations known in the art. The operations may be performed sequentially or simultaneously.

Detail Description Paragraph:
[0032] Adaptive cruise control is used for monitoring objects forward of the vehicle 12 and for maintaining a safe predetermined distance away from the detected objects to prevent collision therewith. When adaptive cruise control is active the controller 22 may warn the vehicle operator of an impending object or perform a countermeasure as to alter the speed of travel of the vehicle 12.

Detail Description Paragraph:
[0033] Lane-keeping and lane-departure control refer to when the controller 22 monitors lane markings or roadway lane designating lines and warns the vehicle operator when the vehicle 12 is exiting a current lane of travel or is directed to exit the current lane of travel. The controller 22 may perform a countermeasure to maintain the current lane of travel, such as controlling the vehicle steering to adjust direction of travel of the vehicle 12.

Detail Description Paragraph:
[0034] Window clearing control refers to performing tasks to clear a window, thus, providing a clear view of an environment forward of the vehicle 12. The vision sensor 16 in conjunction with the multi-focal optic 14 detects and senses the amount of mist, rain, or condensation on a window of the vehicle 12, such as the windshield 32. In response to the amount of moisture sensed within a given area of the window, the controller 22 may adjust wiper speed of a wiper system 34 or activate or increase flow rate of defoggers within a defogger system 36.

Detail Description Paragraph:
[0035] Countermeasure control may include occupant related operations, such as detecting occupant characteristics, determining which of the countermeasures 28 and 30 to perform, and adjusting times and activating rates of the countermeasures 28 and 30. The occupant characteristics may include occupant positioning within a seat, occupant size, or other known occupant characteristics.

Detail Description Paragraph:
[0036] The controller 22 determines which of the sensing system operations to perform. The controller 22 while performing one or more of the sensing system operations may determine whether to perform one or more of the countermeasures 28 and 30 and indicate to the vehicle operator various object and vehicle status information. Depending upon relative positions, velocities, and accelerations of the detected objects, the controller 22 may also determine whether to indicate to the vehicle operator of a potential collision or may perform a countermeasure, as needed, so as to prevent a collision, mitigate a potential injury, or prevent the vehicle 12 from traveling outside a current lane of travel.

Detail Description Paragraph:
[0037] The safety system 24 may be coupled to the controller 22 and include object detection sensors, such as the vision sensor 16, and the signal processor 20. The safety system 24 may include the countermeasures 28 and 30 as well as other safety system components, systems, or controllers known in the art.

Detail Description Paragraph:
[0038] The passive countermeasures 28 may include internal air bag control, seatbelt control, knee bolster control, head restraint control, load limiting pedal control, load limiting steering control, pretensioner control, external air bag control, pedestrian protection control, and other passive countermeasures known in the art.

Detail Description Paragraph:
[0039] The active countermeasures 30 may include brake control, throttle control,

steering control, suspension control, transmission control, and other vehicle control systems. The controller 22 may signal the vehicle operator via the indicator 26 of an impending potential collision so that the vehicle operator may actively perform a precautionary action, such as applying the brakes or steering to prevent a collision.

Detail Description Paragraph:
[0048] In step 102, the vision sensor 16 generates multiple object detection signals corresponding to the monitored viewing areas 18. Object detection signals may be continuously generated to inform the controller 22 of object status external to, on, and internal to the vehicle 12. When the reflective device 66 is utilized one or more object detection signals are generated corresponding to the viewing area 60". The object detection signals may be generated sequentially or simultaneously.

Detail Description Paragraph:
[0049] In step 104, the signal processor 20 converts, modifies, and formats the object detection signal for reception by the controller 22. The signal processor may, for example, include an analog-to-digital converter to convert analog image signals into a digital format.

Detail Description Paragraph:
[0050] In step 106, the controller 22 generates multiple safety system signals in response to the object detection signals. The safety system signals may include not only countermeasures related signals, as stated above, but may also include signals related to other sensing system controls, some of which are also stated above.

Detail Description Paragraph:
[0051] In step 108, the controller 22 may determine occupant characteristics in response to the object detection signals. In determining occupant characteristics the controller 22 may also determine whether a child safety seat is located within a vehicle seat of the viewing area 60". Step 108 may be performed simultaneously with step 106, whereby, the controller 22 generates or modifies safety system signals in response to the determined occupant characteristics.

Detail Description Paragraph:
[0052] In step 110, the controller 22 may perform multiple sensing system operations in response to the safety system signals. The controller 22 may perform a countermeasure operation, a windshield clearing operation, an adaptive cruise control operation, or any of the other above-mentioned or known in the art sensing system operation in response to the safety system signals. For example, the vision sensor 16 may detect a moisture level on the windshield 32 to be above a predetermined level and in response thereto the controller 22 may activate or increase speed of the wiper system 34. As another example, the vision sensor 16 may detect an occupant that is small in size or a child safety seat within a seat system and decelerate or prevent activation of an air bag near the occupant or safety seat.

Detail Description Paragraph:
[0054] The present invention provides a multipurpose sensing system that is capable of monitoring multiple viewing areas using a single vision sensor and controller. The present invention in utilizing a single vision sensor and controller minimizes the number of sensors and sensing system components within a vehicle, sensing system complexity, and manufacturing and maintenance costs involved therein.

CLAIMS:

1. A multipurpose sensing system for a vehicle comprising: at least one optic directed at a plurality of viewing areas; a single vision sensor coupled to said at least one optic and generating a plurality of object detection signals

corresponding to said plurality of viewing areas; and a <u>controller</u> coupled to said vision <u>sensor</u> and generating a plurality of safety system signals in response to said plurality of object detection signals.

2. A system as in claim 1 wherein said vision <u>sensor</u> generates a first object detection signal and a second object detection signal and wherein said <u>controller</u> generates a first safety system signal in response to said first object detection signal and a second safety system signal in response to said second object detection signal.

3. A system as in claim 1 wherein said at least one optic comprises: a first focal point that corresponds to objects on the <u>vehicle</u>; and a second focal point that corresponds to objects external to the <u>vehicle</u>.

4. A system as in claim 3 wherein said first focal point corresponds to moisture on a <u>vehicle</u> window.

5. A system as in claim 1 wherein said at least one optic comprises: a first focal point that corresponds to objects within the <u>vehicle</u>; and a second focal point that corresponds to objects external to the <u>vehicle</u>.

6. A system as in claim 5 wherein said first focal point corresponds to <u>vehicle</u> occupants within the <u>vehicle</u>.

7. A system as in claim 1 wherein said vision <u>sensor</u> is selected from a camera, a charged coupled device, an infrared detector, and at least one photodiode.

8. A system as in claim 1 further comprising a signal processor receiving and formatting said plurality of object detection signals for reception by said <u>controller</u>.

9. A system as in claim 1 wherein said vision <u>sensor</u> generates said plurality of object detection signals simultaneously.

11. A system as in claim 1 wherein said <u>controller</u> performs sensing system operations selected from at least one of adaptive cruise <u>control</u>, lane-keeping <u>control</u>, lane-departure <u>control</u>, window clearing <u>control</u>, collision avoidance <u>control</u>, and countermeasure <u>control</u> in response to said plurality of object detection signals.

12. A system as in claim 1 wherein said <u>controller</u> determines occupant characteristics in response to said plurality of object detection signals.

13. A system as in claim 1 wherein said <u>controller</u> determines existence of a child safety seat in response to said plurality of object detection signals.

14. A system as in claim 1 further comprising a reflective device, said vision <u>sensor</u> generating at least one object detection signal in response to at least a portion of a view from said reflective device.

16. A method of performing a plurality of sensing system operations within a <u>vehicle</u> comprising: monitoring a plurality of viewing areas; generating a plurality of object detection signals from a single vision <u>sensor</u> corresponding to said plurality of viewing areas; generating a plurality of safety system signals in response to said plurality of object detection signals; and performing the plurality of sensing system operations in response to said plurality of safety system signals.

17. A method as in claim 16 wherein monitoring a plurality of viewing areas comprises monitoring a first viewing area on the <u>vehicle</u> and a second viewing area

external to the <u>vehicle</u>.

18. A method as in claim 16 wherein monitoring a plurality of viewing areas comprises monitoring a first viewing area internal to the <u>vehicle</u> and a second viewing area external to the <u>vehicle</u>.

20. A multipurpose sensing system for a <u>vehicle</u> comprising: a multi-focal lens having a first focal point corresponding to a first viewing area and a second focal point corresponding to a second viewing area; a reflective device directed at said second viewing area; a vision <u>sensor</u> coupled to said bi-focal lens and generating a first object detection signal with respect to said first viewing area and a second object detection signal with respect to said second viewing area as is reflected from said reflective device; and a <u>controller</u> coupled to said vision <u>sensor</u> and generating a first safety system signal in response to said first object detection signal and a second safety system signal in response to said second object detection signal.

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Search Results - Record(s) 1 through 10 of 39 returned.

▦ 1. Document ID: US 20050137774 A1

L27: Entry 1 of 39   File: PGPB   Jun 23, 2005

PGPUB-DOCUMENT-NUMBER: 20050137774
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050137774 A1

TITLE: SINGLE VISION SENSOR OBJECT DETECTION SYSTEM

PUBLICATION-DATE: June 23, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Rupp, Jeffrey D.	Ann Arbor	MI	US

US-CL-CURRENT: 701/96; 180/170, 340/436

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachment | Claims | KWIC | Draw D |

▦ 2. Document ID: US 20050073396 A1

L27: Entry 2 of 39   File: PGPB   Apr 7, 2005

PGPUB-DOCUMENT-NUMBER: 20050073396
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050073396 A1

TITLE: MULTIPURPOSE VISION SENSOR SYSTEM

PUBLICATION-DATE: April 7, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Mills, Aaron L.	Ann Arbor	MI	US
Engelman, Gerald H.	Plymouth	MI	US
Xu, Liwen	Southfield	MI	US
Beydoun, Samir Mohamad	Dearborn Heights	MI	US

US-CL-CURRENT: 340/435; 701/45

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachment | Claims | KWIC | Draw D |

PGPUB-DOCUMENT-NUMBER: 20050017857
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050017857 A1

TITLE: VISION-BASED METHOD AND SYSTEM FOR AUTOMOTIVE PARKING AID, REVERSING AID, AND PRE-COLLISION SENSING APPLICATION

PUBLICATION-DATE: January 27, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Rao, Manoharprasad K.	Novi	MI	US
Prakah-Asante, Kwaku .O.	Commerce Township	MI	US
Strumolo, Gary Steven	Beverly Hills	MI	US
Ebenstein, Samuel Edward	Southfield	MI	US
Smith, Gregory H.	Ann Arbor	MI	US

US-CL-CURRENT: 340/435

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | DWC | Draw C |

PGPUB-DOCUMENT-NUMBER: 20040145457
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20040145457 A1

TITLE: Accessory system suitable for use in a vehicle

PUBLICATION-DATE: July 29, 2004

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Schofield, Kenneth	Holland	MI	US
O'Brien, Frank	Holland	MI	US
Bingle, Robert L.	Holland	MI	US
Lynam, Niall R.	Holland	MI	US

US-CL-CURRENT: 340/425.5; 345/7

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachments | Claims | DWC | Draw C |

PGPUB-DOCUMENT-NUMBER: 20030179084
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030179084 A1

TITLE: Sensor fusion system architecture

PUBLICATION-DATE: September 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Skrbina, David	Northville	MI	US
Kronen, Stanley Thomas	Canton	MI	US

US-CL-CURRENT: 340/435; 340/522, 701/36

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachment | Claims | Date | Draw D |

PGPUB-DOCUMENT-NUMBER: 20020024713
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20020024713 A1

TITLE: Proximity switch and vehicle rearview mirror assembly incorporating the same and having a transparent housing

PUBLICATION-DATE: February 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Roberts, John K.	East Grand Rapids	MI	US
Fogg, Jeremy A.	Holland	MI	US
Bauer, Frederick T.	Holland	MI	US

US-CL-CURRENT: 359/267; 359/838, 359/839, 359/841, 362/460

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachment | Claims | Date | Draw D |

US-PAT-NO: 7158015
DOCUMENT-IDENTIFIER: US 7158015 B2

TITLE: Vision-based method and system for automotive parking aid, reversing aid, and pre-collision sensing application
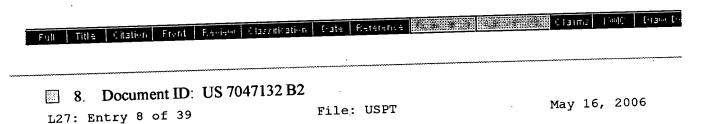
PRIOR-PUBLICATION:
DOC-ID   DATE
US 20050017857 A1   January 27, 2005

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | IndC | Draw Dr |

▨ 8. Document ID: US 7047132 B2
L27: Entry 8 of 39   File: USPT   May 16, 2006

US-PAT-NO: 7047132
DOCUMENT-IDENTIFIER: US 7047132 B2

TITLE: Mobile vehicle sensor array

PRIOR-PUBLICATION:
DOC-ID   DATE
US 20050154503 A1   July 14, 2005

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | IndC | Draw Dr |

▨ 9. Document ID: US 6958683 B2
L27: Entry 9 of 39   File: USPT   Oct 25, 2005

US-PAT-NO: 6958683
DOCUMENT-IDENTIFIER: US 6958683 B2

TITLE: Multipurpose vision sensor system

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | IndC | Draw Dr |

▨ 10. Document ID: US 6862537 B2
L27: Entry 10 of 39   File: USPT   Mar 1, 2005

US-PAT-NO: 6862537
DOCUMENT-IDENTIFIER: US 6862537 B2

TITLE: Sensor fusion system architecture

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | IndC | Draw Dr |

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Terms	Documents
L23 or L24 or L25 or L26	39

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Previous Page   Next Page   Go to Doc#

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Search Results - Record(s) 1 through 10 of 11 returned.

1. Document ID: US 20050137774 A1

L38: Entry 1 of 11   File: PGPB   Jun 23, 2005

PGPUB-DOCUMENT-NUMBER: 20050137774
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050137774 A1

TITLE: SINGLE VISION SENSOR OBJECT DETECTION SYSTEM

PUBLICATION-DATE: June 23, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Rupp, Jeffrey D.	Ann Arbor	MI	US

US-CL-CURRENT: 701/96; 180/170, 340/436

| Full | Title | Citation | Front | Review | Classification | Date | Reference | Sequences | Attachment | Claims | KWIC | Draw D |

2. Document ID: US 20050073396 A1

L38: Entry 2 of 11   File: PGPB   Apr 7, 2005

PGPUB-DOCUMENT-NUMBER: 20050073396
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050073396 A1

TITLE: MULTIPURPOSE VISION SENSOR SYSTEM

PUBLICATION-DATE: April 7, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Mills, Aaron L.	Ann Arbor	MI	US
Engelman, Gerald H.	Plymouth	MI	US
Xu, Liwen	Southfield	MI	US
Beydoun, Samir Mohamad	Dearborn Heights	MI	US

US-CL-CURRENT: <u>340</u>/<u>435</u>; <u>701</u>/<u>45</u>

▨ 3. Document ID: US 20050017857 A1

File: PGPB   Jan 27, 2005

PGPUB-DOCUMENT-NUMBER: <u>20050017857</u>
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20050017857 A1

TITLE: VISION-BASED METHOD AND SYSTEM FOR AUTOMOTIVE PARKING AID, REVERSING AID, AND PRE-COLLISION SENSING APPLICATION

PUBLICATION-DATE: January 27, 2005

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Rao, Manoharprasad K.	Novi	MI	US
Prakah-Asante, Kwaku O.	Commerce Township	MI	US
Strumolo, Gary Steven	Beverly Hills	MI	US
Ebenstein, Samuel Edward	Southfield	MI	US
Smith, Gregory H.	Ann Arbor	MI	US

US-CL-CURRENT: <u>340</u>/<u>435</u>

▨ 4. Document ID: US 20030179084 A1

File: PGPB   Sep 25, 2003

PGPUB-DOCUMENT-NUMBER: <u>20030179084</u>
PGPUB-FILING-TYPE: new
DOCUMENT-IDENTIFIER: US 20030179084 A1

TITLE: Sensor fusion system architecture

PUBLICATION-DATE: September 25, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY
Skrbina, David	Northville	MI	US
Kronen, Stanley Thomas	Canton	MI	US

US-CL-CURRENT: <u>340</u>/<u>435</u>; <u>340</u>/<u>522</u>, <u>701</u>/<u>36</u>

US-PAT-NO: 7158015
DOCUMENT-IDENTIFIER: US 7158015 B2

TITLE: Vision-based method and system for automotive parking aid, reversing aid, and pre-collision sensing application
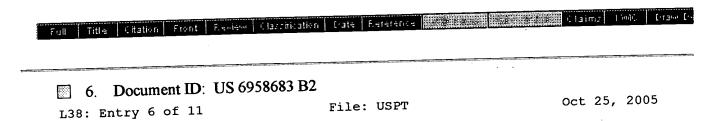
PRIOR-PUBLICATION:
DOC-ID   DATE
US 20050017857 A1   January 27, 2005

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D |

US-PAT-NO: 6958683
DOCUMENT-IDENTIFIER: US 6958683 B2

TITLE: Multipurpose vision sensor system

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D |

US-PAT-NO: 6862537
DOCUMENT-IDENTIFIER: US 6862537 B2

TITLE: Sensor fusion system architecture

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | KWIC | Draw D |

US-PAT-NO: 6499025
DOCUMENT-IDENTIFIER: US 6499025 B1
** See image for Certificate of Correction **

TITLE: System and method for tracking objects by fusing results of multiple sensing modalities

9. Document ID: US 6498620 B2

L38: Entry 9 of 11   File: USPT   Dec 24, 2002

US-PAT-NO: 6498620
DOCUMENT-IDENTIFIER: US 6498620 B2

TITLE: Vision system for a vehicle including an image capture device and a display system having a long focal length

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | | Draw C... |

10. Document ID: US 6222447 B1

L38: Entry 10 of 11   File: USPT   Apr 24, 2001

US-PAT-NO: 6222447
DOCUMENT-IDENTIFIER: US 6222447 B1

TITLE: Rearview vision system with indicia of backup travel

| Full | Title | Citation | Front | Review | Classification | Date | Reference | | | Claims | | Draw C... |

[Clear] [Generate Collection] [Print] [Fwd Refs] [Bkwd Refs] [Generate OACS]

Terms	Documents
L27 and (single$ with (vision$ or visual$))	11

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Previous Page   Next Page   Go to Doc#